Economic Impacts of Oil Sands Development

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Senior Research Director
Canadian Energy Research Institute
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Medicine Hat
Agenda

- Who We Are and What We Do
- Canadian Oil and Oil Sands
- Economic Benefits
- But...
- What are Some of the Problems?
- Summary
Canadian Energy Research Institute
Overview

Founded in 1975, the Canadian Energy Research Institute (CERI) is an independent, non-profit research institute specializing in the analysis of energy economics and related environmental policy issues in the energy production, transportation, and consumption sectors. Our mission is to provide relevant, independent, and objective economic research in energy and related environmental issues. A central goal of CERI is to bring the insights of scientific research, economic analysis, and practical experience to the attention of government policy-makers, business sector decision-makers, the media, and citizens in Canada and abroad.

Core members of the Institute include the Canadian Government, the Government of the Province of Alberta, the University of Calgary, the Canadian Association of Petroleum Producers (CAPP) and the Small Explorers and Producers Association (SEPAC). In-kind support is also provided by the Energy Resources Conservation Board (ERCB).

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- Canadian Oil Sands Supply Costs and Development Projects (2011-2045) (March 2012)
- Canadian Energy: Pacific Access – Foreign Investment in the Oil Sands and British Columbia Shale Gas (March 2012)
- Canadian Energy: Pacific Access – Overview of Transportation Options (January 2012)
- Overview of Eastern and Atlantic Canada’s Petroleum Industry and Economic Impacts of Offshore Atlantic Projects (November 2011)
- Applicability Abatement Potential for the Alberta Oil Sands Industry and Carbon Capture and Storage (CCS) Applicability to Coal-fired Electricity Generation and Oil Sands (October 2011)
- North American Natural Gas Market Dynamics: Global LNG – A Review (June 2011)
- Economic Impacts of Drilling, Completing and Operation of Gas Wells in Western Canada (June 2011)
- Economic Impacts of Drilling, Completing and Operating Conventional Oil Wells in Western Canada (June 2011)
2012 Reports Released (July/August 2012)

- Pacific Access Part I – Linking Oil Sands Supply to New and Existing Markets
- Pacific Access Part II – Asia-Directed Oil Pathways and Their Economic Impacts
- Pacific Access Part III – Economic Impacts of Exporting Horn River Natural Gas to Asia as LNG
- Natural Gas Liquids in North America: Overview and Outlook to 2035
2012-2013 Current Work

- Potential Impact of Shale Gas Development in Quebec
- North American Natural Gas Demand Pathways  
  (ICF/MARBEK, whatIf? Technologies)
- Energy Metrics Handbook
- Potential Transportation Options for Alberta Land-Locked Oil

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June 3-5, 2012

CERI 2012 Oil Conference
“Achieving Super Power Status”
April 23-24, 2012

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“Going Global – Shifting the Focus of the Natural Gas Industry”
February 27-28, 2012

Dates and venues for our 2013 conferences can be found on our website. For further information, contact our Conference Manager, Deanne Landry, at 403-220-2395 or dlandry@ceri.ca.
“Western Canada’s Upstream Oil and Gas Industry”
Land Acquisition
Crown Land Sales
Evaluation
Construction
Operation and Maintenance
Production
Wages
Royalties

Western Canada’s Oil and Gas Industry

2011 Expenditures: **$68.1 billion**

- **Oil and Gas Drilling**
- **Conventional Drilling**
- **Land Acquisition**
- **Crown Land Sales**

2011 Expenditures: **$45.3 billion**

- **Oil Sands Developments**
- **Construction**
- **Evaluation**
- **Operation and Maintenance**

2011 Expenditures: **$68.1 billion**

- **Royalties**
- **Wages**
- **Production**
- **Completion and Tie in**

**Oil and Gas Drilling**
“Canadian Oil and Oil Sands”
# 2011 Facts about Canadian Crude

## Production:
- **Western Canada (AB,BC,SK,NWT)**
  - Conventional LIGHT Crude: 561,929 bbls/day
  - Upgraded Bitumen: 846,112 bbls/day
  - Condensate (C5+): 128,498 bbls/day
  - Conventional HEAVY Crude: 421,618 bbls/day
  - Non Upgraded Bitumen: 758,919 bbls/day
- **Eastern Canada (NF/LAB,ON)**
  - Conventional LIGHT Crude: 271,778 bbls/day

### Total 2011 Production of Crude Oil and Equivalent: 2,988,854 bbls/day

## Exports:
- **PADD I** (74% Light, 26% Heavy): 171,182 bbls/day
- **PADD II** (21% Light, 79% Heavy): 1,439,447 bbls/day
- **PADD III** (12% Light, 78% Heavy): 111,358 bbls/day
- **PADD IV** (17% Light, 83% Heavy): 213,709 bbls/day
- **PADD V** (61% Light, 39% Heavy): 167,295 bbls/day
- **Non-US** (67% Light, 33% Heavy): 35,261 bbls/day
- **Total US** (28% Light, 82% Heavy): 2,138,260 bbls/day

## Imports:
- **Atlantic Canada** Conventional Crude: 333,990 bbls/day (80%)
- **Quebec** Conventional Crude: 298,775 bbls/day (84%)
- **Ontario** Conventional Crude: 52,836 bbls/day (15%)
- **Total Canadian Imports**: 685,560 bbls/day
WCSB Conventional Oil Production Forecast

Realistic Scenario (2010-2035)

British Columbia Existing Wells
British Columbia New Wells
Alberta Existing Wells
Alberta New Wells
Saskatchewan Existing Wells
Saskatchewan New Wells
Manitoba Production
NWT Production

+ 150,000 bbls/day
Western Canadian Oil Sands Potential

Graph showing the total in situ bitumen volumes and total mined bitumen volumes from 2007 to 2045. The graph indicates a significant increase in both volumes over the years, with the total in situ bitumen volumes rising from 1,000 bpd in 2007 to 3,500 bpd in 2045, and the total mined bitumen volumes starting at 500 bpd in 2007 and reaching 3,500 bpd in 2045.
Western Canadian Oil Sands Potential

[Graph showing the potential production of oil sands from 2007 to 2045. The graph illustrates various stages: Announced, Awaiting Approval, Approved, Suspended, Under Construction, and Onstream.]

('000 b/d)
Options for Canadian Crude By Pipeline

Source: Canadian Association of Petroleum Producers, Crude Oil Forecast, Markets & Pipelines, June 2011
“Economic Impacts of Oil Sands Staged Development”
Input-Output (I/O) Logic

- Oil Sands
- Steel
- Trucks
- Natural Gas
- Water
- Engineering Services
- Other inputs

Oil Sands Industry
There are two types of shocks:
- Investment
- Operation

Investments in Alberta Oil Sands
Operations in Alberta Oil Sands

UCMRIO 2.0 Multipliers

Impacts on Alberta
Impacts on BC
Impacts on the US
How Does it Work?

$1 Investment Oil Sands
  $0.55 Oil Sands
  $0.20 Construction
  $0.25 Other Manufacturing

$1 Operations Oil Sands
  $0.95 Oil Sands
  $0.05 FIRE

UCMRIO 2.0 Multipliers

Investment & Operations Impacts
  $2.02 GDP
  $0.6 Compensation of Employees
  11.2 Employment Opportunities
  $0.42 Taxes
Economic Impacts of Alberta’s Oil Sands
Case 1 - “No Expansion” Scenario

Note(s): 1) Operational Capacity is 95% of total design capacity. 2) Conventional crude volumes are net production volumes available for export (i.e., net of domestic demand). 3) Oil Sands volumes comprise of net bitumen SCO available for export and diluent volumes required to move bitumen as per pipeline specifications.

February 2, 2012
Economic Impacts of Alberta’s Oil Sands - Canada
Case 1 - “No Expansion” Scenario

GDP Impacts (2011-2035)

Total GDP Increase as a result of Oil Sands Investment & Operations 2011-2035

1. Ontario $44.30 billion
2. BC $19.45 billion
3. Quebec $9.59 billion
4. Saskatchewan $3.05 billion
5. Manitoba $2.93 billion
6. ROC $1.56 billion

Alberta $1,440 Billion
Rest of Canada $80.9 Billion

Ontario 55%
British Columbia 24%
Saskatchewan 4%
Manitoba 3%
Quebec 12%
Rest of Canada 2%
Economic Impacts of Alberta’s Oil Sands - Canada
Case 1 - “No Expansion” Scenario

Alberta & Rest of Canada Total Taxes paid
2011-2035

Alberta: $298 billion
Rest of Canada: $26 billion

Saskatchewan:
- $0.95 bln in total taxes paid
- 37 thousand person-years of employment
- $1.33 bln in employee compensation

Total Employment Impacts in Canada 2011-2035

Alberta:
- 7,209 thousand person-years of employment
- $399 bln in employee compensation
<table>
<thead>
<tr>
<th>State</th>
<th>GDP (Mln $CDN)</th>
<th>Compensation (Mln $CDN)</th>
<th>Employment (Thousand person-yrs)</th>
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<tbody>
<tr>
<td>Colorado</td>
<td>$3,305</td>
<td>$1,563</td>
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<tr>
<td>Kansas</td>
<td>$2,008</td>
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<tr>
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<tr>
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<td>$280</td>
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<td>$610</td>
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<td>North Dakota</td>
<td>$209</td>
<td>$89</td>
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<tr>
<td>Oklahoma</td>
<td>$1,368</td>
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<tr>
<td>Wyoming</td>
<td>$382</td>
<td>$98</td>
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“Let’s Talk About Pipelines”
### Economic Impacts of Alberta’s Oil Sands – Canada

#### Case 2 - Inclusion of the Keystone XL Pipeline (Incremental Impacts)

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada</th>
<th>AB</th>
<th>SK</th>
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</thead>
<tbody>
<tr>
<td>GDP (bln)</td>
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<td>$583.2</td>
<td>$1.4</td>
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<tr>
<td>Tax Revenues (bln)</td>
<td>$131</td>
<td>$121</td>
<td>$0.4</td>
</tr>
<tr>
<td>Employment (‘000 person-years)</td>
<td>3,497</td>
<td>3,016</td>
<td>17</td>
</tr>
</tbody>
</table>

**Note(s):**
1. Operational Capacity is 95% of total design capacity.
2. Conventional crude volumes are net production volumes available for export (i.e., net of domestic demand).
3. Oil Sands volumes comprise of net bitumen and SCO available for export and diluent volumes req’ed to move bitumen as per pipeline specifications.
### Ports-to-Plains Alliance Member States

<table>
<thead>
<tr>
<th>State</th>
<th>Incremental GDP Mln $CDN</th>
<th>Incremental Compensation Mln $CDN</th>
<th>Employment Thousand person-yrs</th>
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</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>$4,830</td>
<td>$2,293</td>
<td>53</td>
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<tr>
<td>Kansas</td>
<td>$3,171</td>
<td>$1,513</td>
<td>35</td>
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<tr>
<td>Montana</td>
<td>$6,430</td>
<td>$3,054</td>
<td>70</td>
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<tr>
<td>Nebraska</td>
<td>$558</td>
<td>$265</td>
<td>6</td>
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<tr>
<td>New Mexico</td>
<td>$544</td>
<td>$238</td>
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<tr>
<td>North Dakota</td>
<td>$206</td>
<td>$95</td>
<td>3</td>
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<tr>
<td>Oklahoma</td>
<td>$1,244</td>
<td>$566</td>
<td>14</td>
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<tr>
<td>South Dakota</td>
<td>$241</td>
<td>$109</td>
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<tr>
<td>Texas</td>
<td>$13,159</td>
<td>$5,974</td>
<td>138</td>
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<tr>
<td>Wyoming</td>
<td>$316</td>
<td>$128</td>
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<td><strong>Total</strong></td>
<td><strong>$172,149</strong></td>
<td><strong>$81,872</strong></td>
<td><strong>1,883</strong></td>
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Economic Impacts of Alberta’s Oil Sands - Canada
Case 3 - Inclusion of TMX Expansion (Incremental Impacts)

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<td>2008</td>
<td>$65</td>
<td>$60</td>
<td>$0.2</td>
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<tr>
<td>2035</td>
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</tbody>
</table>

Note(s): 1) Operational Capacity is 95% of total design capacity. 2) Conventional crude volumes are net production volumes available for export (i.e., net of domestic demand). 3) Oil Sands volumes comprise of net bitumen and SCO available for export and diluent volumes req’d to move bitumen as per pipeline specifications.

August 23, 2012
## Economic Impacts of Alberta’s Oil Sands - US

### Case 3 - Inclusion of the TMX Expansion (Incremental Impacts)

### Ports-to-Plains Alliance Member States

<table>
<thead>
<tr>
<th>State</th>
<th>Incremental GDP (Mln $CDN)</th>
<th>Compensation (Mln $CDN)</th>
<th>Employment (Thousand person-ys)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PADD I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado</td>
<td>$677</td>
<td>$320</td>
<td>7</td>
</tr>
<tr>
<td>Kansas</td>
<td>$410</td>
<td>$199</td>
<td>4</td>
</tr>
<tr>
<td><strong>PADD II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montana</td>
<td>$636</td>
<td>$301</td>
<td>7</td>
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<tr>
<td>Nebraska</td>
<td>$124</td>
<td>$58</td>
<td>2</td>
</tr>
<tr>
<td><strong>PADD III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Mexico</td>
<td>$128</td>
<td>$45</td>
<td>1</td>
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<tr>
<td><strong>PADD IV</strong></td>
<td></td>
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</tr>
<tr>
<td>North Dakota</td>
<td>$44</td>
<td>$18</td>
<td>0</td>
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<tr>
<td><strong>PADD V</strong></td>
<td></td>
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<tr>
<td>Oklahoma</td>
<td>$287</td>
<td>$116</td>
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<tr>
<td>South Dakota</td>
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<tr>
<td><strong>Total</strong></td>
<td>$2,691</td>
<td>$1,064</td>
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<tr>
<td>Texas</td>
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<tr>
<td>Wyoming</td>
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</table>
Economic Impacts of Alberta’s Oil Sands - Canada
Case 4 - Inclusion of Northern Gateway (Incremental Impacts)

<table>
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<tr>
<th></th>
<th>Canada</th>
<th>AB</th>
<th>SK</th>
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</thead>
<tbody>
<tr>
<td>GDP (bln)</td>
<td>$374</td>
<td>$352</td>
<td>$0.9</td>
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<tr>
<td>Tax Revenues (bln)</td>
<td>$80</td>
<td>$73</td>
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<td>Employment (‘000 person-years)</td>
<td>2,150</td>
<td>1,853</td>
<td>11</td>
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</table>

Note(s): 1) Operational Capacity is 95% of total design capacity. 2) Conventional crude volumes are net production volumes available for export (i.e., net of domestic demand). 3) Oil Sands volumes comprise of net bitumen and SCO available for export and diluent volumes req’ed to move bitumen as per pipeline specifications.

August 23, 2012
## Economic Impacts of Alberta’s Oil Sands - US

Case 4 - Inclusion of the Northern Gateway Pipeline (Incremental Impacts)

<table>
<thead>
<tr>
<th>Ports-to-Plains Alliance Member States</th>
<th>Incremental</th>
<th>GDP</th>
<th>Compensation</th>
<th>Employment Thousand person-yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PADD I</td>
<td>$11,228</td>
<td>$5,668</td>
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<tr>
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<td>PADD II</td>
<td>$13,388</td>
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<td>PADD III</td>
<td>$5,624</td>
<td>$2,214</td>
<td>55</td>
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<td>PADD IV</td>
<td>$1,998</td>
<td>$927</td>
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<tr>
<td></td>
<td>PADD V</td>
<td>$7,054</td>
<td>$3,290</td>
<td>74</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$39,292</strong></td>
<td><strong>$18,724</strong></td>
<td><strong>433</strong></td>
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<table>
<thead>
<tr>
<th>Member States</th>
<th>Incremental</th>
<th>GDP</th>
<th>Compensation</th>
<th>Employment Thousand person-yrs</th>
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<tbody>
<tr>
<td>Colorado</td>
<td>$847</td>
<td>$400</td>
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<tr>
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<td>$3,683</td>
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<tr>
<td>Wyoming</td>
<td>$105</td>
<td>$27</td>
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</tbody>
</table>
Note(s): 1) Operational Capacity is 95% of total design capacity. 2) Conventional crude volumes are net production volumes available for export (i.e., net of domestic demand). 3) Oil Sands volumes comprise of net bitumen and SCO available for export and diluent volumes req’d to move bitumen as per pipeline specifications.
Economic Impacts of Alberta’s Oil Sands - Canada Comparison of Cases

### Incremental GDP Impacts

<table>
<thead>
<tr>
<th>Case</th>
<th>Alberta</th>
<th>Ontario</th>
<th>British Columbia</th>
<th>Saskatchewan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,439.9</td>
<td>44.3</td>
<td>19.4</td>
<td>3.1</td>
</tr>
<tr>
<td>2</td>
<td>583.2</td>
<td>18.6</td>
<td>8.3</td>
<td>1.4</td>
</tr>
<tr>
<td>3</td>
<td>291.3</td>
<td>9.0</td>
<td>4.0</td>
<td>0.6</td>
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<tr>
<td>4</td>
<td>352.3</td>
<td>11.4</td>
<td>5.1</td>
<td>0.9</td>
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</table>

### Incremental Employment Impacts

<table>
<thead>
<tr>
<th>Case</th>
<th>Alberta</th>
<th>Ontario</th>
<th>British Columbia</th>
<th>Saskatchewan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7,290</td>
<td>602</td>
<td>290</td>
<td>37</td>
</tr>
<tr>
<td>2</td>
<td>3,016</td>
<td>252</td>
<td>123</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>1,471</td>
<td>123</td>
<td>59</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>1,853</td>
<td>155</td>
<td>76</td>
<td>11</td>
</tr>
</tbody>
</table>
Economic Impacts of Alberta’s Oil Sands - US Comparison of Cases

Incremental GDP Impacts by PADD Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PADD I</td>
<td>8,072</td>
<td>24,427</td>
<td>0</td>
<td>1,989</td>
</tr>
<tr>
<td>PADD II</td>
<td>50,550</td>
<td>74,994</td>
<td>10,392</td>
<td>13,388</td>
</tr>
<tr>
<td>PADD III</td>
<td>38,742</td>
<td>74,994</td>
<td>19,844</td>
<td>5,624.5</td>
</tr>
</tbody>
</table>

Incremental Employment Impacts

<table>
<thead>
<tr>
<th>Region</th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PADD I</td>
<td>447</td>
<td>580</td>
<td>195</td>
<td>88</td>
</tr>
<tr>
<td>PADD II</td>
<td>417</td>
<td>827</td>
<td>216</td>
<td>140</td>
</tr>
<tr>
<td>PADD III</td>
<td>93</td>
<td>119</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>PADD IV</td>
<td>128</td>
<td>154</td>
<td>55</td>
<td>22</td>
</tr>
<tr>
<td>PADD V</td>
<td>258</td>
<td>285</td>
<td>54</td>
<td>74</td>
</tr>
</tbody>
</table>
“BUT”
What are the Problems for WCSB OIL?

1. Canadian exports currently feed one market (flat demand and increasing domestic supply).
2. Western Canadian oil/oil sands are land-locked and need transportation options in order to grow either new barrels to the US or Asia.
3. Alberta needs oil hydrocarbon growth in the face of a tanking gas market (Growth = GDP, Employment, Taxes, Royalties).
4. The Cushing Oklahoma bottleneck is affecting PADD II and Canadian market prices “negatively”.
5. Tightening Canadian pipeline capacity will
   ▪ Affect Edmonton/Hardisty basis differential ($$$ left on the table)
   ▪ Potentially slow development of the Oil Sands
   ▪ Potentially slow development of Conventional Oil
6. Oil on Oil Competition for pipeline space and access to refineries
   ▪ Competition with Alberta/Saskatchewan conventional oil developments
   ▪ Competition with North Dakota Bakken oil developments
   ▪ Competition with US Shales (Niobrara, Eagle Ford, etc.)
Problem WTI-Brent Differential

Q3 2011

• WTI discount averaged $23 to Brent
• Canadian Crude (Conventional, SCO, Bitumen) Exports
  • 1,477,000 bbls/day to PADD II
  • 105,000 bbls/day to PADD III
  • 216,000 bbls/day to PADD IV
  • 157,000 bbls/day to PADD V

Simple Math: 2,152,000 bbls/day times $23/bbl
  = $50 million per day (discounted Value)

2012-2013 “The Pipeline Solution”

• Enterprise/ETP (Cushing to Houston) 400,000 b/d Q4 2012
• Enbridge/Wrangler (Cushing to Houston) (light crude) 2013
• Enbridge Monarch (Cushing to Houston) 350,000 b/d Q4 2013
• Houston to El Paso reversal (bypass Cushing) 200,000 b/d Q2 2013
• TCPL Keystone Market Link (Cushing to Houston) 150,000 b/d Q2 2013
Future Problem WTI-Brent Differential

Pipeline Capacity Into and Out of Cushing

- **Year**
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015
  - 2016

- **Capacity BPD**
  - 0
  - 500,000
  - 1,000,000
  - 1,500,000
  - 2,000,000
  - 2,500,000
  - 3,000,000
  - 3,500,000

- **Total Flow Into Cushing** (Blue)
- **Total Flow Out of Cushing** (Red)

**RISK**
Western Canada WTI-WCS Differential

Risk of widening differential if new pipelines are delayed

Keystone Base and Alberta Clipper new capacity

Production ramps up

WTI - WCS Differential ($/b)
West Texas Intermediate (WTI) @ Cushing ($/b)
Western Canadian Select (WCS) @ Hardisty ($/b)
Average Light - Heavy Differential ($/b)
2005 - 2006 Median Differential ($/b)
2007 - 2008 Median Differential ($/b)
2009 - 2010 Median Differential ($/b)
2011 Median Differential ($/b)
Linear (Average Light - Heavy Differential ($/b))

Jan 2005 - Apr 2012
Problem WTI-WCS Differential

Q3 2011
- WCS discount averaged $17 to WTI (net approximately $10)
- Canadian Crude (Conventional, SCO, Bitumen) Exports
  - 1,477,000 bbls/day to PADD II
  - 105,000 bbls/day to PADD III
  - 216,000 bbls/day to PADD IV
  - 157,000 bbls/day to PADD V

Simple Math: 2,152,000 bbls/day times $10/bbl
= $21 million per day (discounted Value)

2012-2020 “The Pipeline Solution”
- Keystone XL (Hardisty to Houston) 700,000 b/d 2016
- Trans Mountain Expansion (Hardisty to Vancouver) 450,000 b/d 2017
- Northern Gateway (Edmonton to Kitimat) 525,000 b/d 2019
- Line 9 Reversal (Sarnia to Westover, ON) 50,000 b/d Q2 2012
- Line 9 Reversal (Westover to Montreal) 100,000 b/d ????
- Portland to Montreal Pipeline (Reversal) 400,000 b/d ????
In Summary

1. The production from conventional sources in Western Canada is growing as technology is able to unlock resources that were once thought to be difficult to extract. Nevertheless, oil sands will continue to dominate the future production growth in this region.

2. Presently, the crude pipeline capacity out of Western Canada is sufficient to transport production coming from on stream and under construction oil sands projects. Additional crude export capacity from Western Canada will be essential by as early as 2015.


4. Given that all oil sands development takes place in Alberta, it is clear that Alberta will be the largest beneficiary, followed by Ontario and then British Columbia.

5. In the US, PADD II (Midwest) is the biggest beneficiary from spin-off effects of Alberta’s oil sands development, followed by PADD I (East Coast) and PADD V (West Coast).
Thank you for your time
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